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WORKING PAPER

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1. Summary

The incontainable pressure of the Chinese population on the limits of subsistence tends to negate all efforts to raise living standards for the remainder of this century. Any temporary improvement in well-being will be quickly reflected in a fall of the death rate to a level far below the birth rate. The resultant population expansion will tend, by reducing per capita income, to effect a return to subsistence standards. Ultimately, the potential for population growth may be reduced by a fall in the birth rate. The fairly uniform record of demographic statistics for other nations, however, indicates that the fall in China's birth rate, for the remainder of this century at least, is not likely to counterbalance the fall in the death rate.

The history of Japan's development, encouraged in large part by vigorous government direction, suggests that the demographic factors hich render difficult the elevation of living standards in China need not debar the building of an industrial complex. A Communist government in China will probably attempt to direct as large a part as possible of the nation's labor into the production of capital goods or into the production of commodities which can be exchanged in foreign trade for capital goods. The allowed output of consumption goods will set the bounds of possible population increase. The industrialization program of the Chinese Communists, if vigorously executed, will thus tend to limit population expansion rather than be limited by it.

2. Population Pressure and Living Standards

a. The Birth and Death Rates in China

China's high birth rate and high death rate constitute the core of her population problem. Although reliable vital statistics have not been recorded



for the country as a whole, the evidence of special surveys in local areas indicates that the birth rate is probably in the neighborhood of 40 per thousand (that is, 40 births each year for every thousand persons in the population); the death rate has probably averaged a little less. These rates are from two to three times as high as those which have prevailed in recent years among the economically more advanced nations of the West.

The extremely high birth rate in China threatens continuously to expand the population beyond the limits which the economy can support at even mere subsistence standards. The necessary consequence is the high death rate, the visible manifestation of the inexorable checks on population growth imposed by the limits of subsistence. The efficacy of the death rate in braking population growth, however, varies from year to year. Droughts and floods presage an increase in deaths; good harvests foretoken a decline in the number of people who will die during the year. Since the high birth rate remains relatively stable from year to year, the necessary result of a temporary improvement in living conditions is to increase the pressure of population on the land and effect a reversion to subsistence standards. It is this unique dependence of the death rate on economic conditions in the face of the high and comparatively invariable birth rate that apparently precludes a lasting improvement in individual well being.

A simple numerical example will illustrate the force of population pressure in blocking the improvement of living standards. The immediate effect of improved living conditions would be to lower the death rate, say to 25 per thousand. If the birth rate were to stay constant at say 40 per thousand, the result would be an annual rate of natural increase of 15 per thousand, a rate



that is not unlikely of attainment and is in fact lower than that which prevailed among the Chinese in Taiwan under Japanese rule. A population that keeps increasing at the rate of l_2^1 percent every year doubles itself in less than half a century. The apparently attainable l_2^1 percent annual increase would thus bring the Chinese population to approximately a billion by the end of this century, or very nearly half the present population of the earth.

It is this amazing potential for population growth that renders so unpromising any measures designed to effect an appreciable rise in Chinese living standards. Rising incomes bring a falling death rate; and a fall in the death rate, even if only to a level twice that prevailing in Western countries, leads to a phenomenal population expansion. 1

In large part, the demographic factors operative in China today resemble those which prevailed in the mest at the beginning of the Industrial Revolution. Like China today, England in the eighteenth century was a country with high birth and death rates. Although the historical data are fragmentary, the best available evidence is that the death rate in England just before the Industrial

The situation contrasts sharply with that which exists currently in the Western nations. The death rate in the United States, for example, is now around 10 per thousand. In a stationary population, the maintenance of this rate would signify a life expectancy at birth of 100 years. If allowance is made for the deaths which unavoidably occur among infants and young children, the rate signifies that the typical adult would live to be well over 100 years old. Clearly, the death rate in the United States cannot be ap reciably decreased; its present low level merely reflects the temporary circumstance that an unusually high proportion of the population is concentrated in age groups which suffer relatively low mortality. As the individuals in these age groups become older, the death rate in the United States will necessarily rise. No margin exists in this country, as in China, for a sharp drop in the death rate and for the consequent expansion in population.



Revolution was at least 35 per thousand and probably higher. The birth rate was higher than 35 per thousand, but not enough so to produce a very marked population growth. By 1800, the death rate had fallen to possibly 25 per thousand; with her birth rate still higher than 35 per thousand, England experienced the rapid population increase that tended to deny to most of the people the fruits of increased productivity. When Malthus developed his theory of population at this time, the number of people in England was increasing at a rapid pace, and the economic condition of the majority of urban and rural dwellers seemed not at all improved from what it had been in preceding generations.

b. The Prospects for a Decline in the Birth Rate

The ultimate resolution of China's dilemma lies, of course, in a decline of the birth rate. The experience of the economically advanced nations does suggest that a falling birth rate will follow industrialization. The fall in the birth rate, however, has typically been delayed for decades after the drop in the death rate was initiated. In England, for example, the birth rate did not begin its downward course until about a century after included began its the industrial revolution. In Japan, which successfully telescoped the Western experience into a shorter interval, the downturn in the birth rate followed the inception of its industrialization by about half a century. Even if the favorable assumption is made that China's demographic cycle will follow the Japanese rather than the English pattern, it follows that no decline in China's birth rate can be looked for in the twentieth century. Indeed, it is very likely that, for the first generation or so, the effect of increased productivity



particularly extensive in China. Any improvement in living conditions that effected a significant decline in mortality among infants and young children would in a generation hence increase the proportion of the population consisting of women of child bearing age. The resultant rise in the birth rate would reflect this temporary alteration in the age distribution of the population.

Even if the Chinese Communists can quicken the tempo of social change and achieve a falling birth rate before the end of this century, it is not likely that they could immediately counterbalance the fall in the death rate. The fairly uniform experience of other nations in this respect suggests the initial inadequacy of a falling birth rate to prevent a high rate of natural increase. When the Swedish birth rate began its steady decline around the middle of the nineteenth centry, the rate of natural increase (that is, the birth rate minus the death rate) was about 11 per thousand. For the next half century, the falling birth rate was fully offset by the falling death rate; just before World War I, the rate of natural increase was still in the neighborhood of 11 per thousand. Data for other countries similarly indicate no appreciable decline in the rate of natural increase for a long time after the birth rate begins to fall. The logical inference to be drawn from demographic history seems inescapable: industrialization and increased productivity in China would greatly expand her population throughout the remainder of this century and probably for a good part of the next. More food, more clothing, more shelter mean the survival of more Chinese, so that the share for each remains little more than enough to support life at minimal standards. Eventually, the Chinese, like other peoples



before them, will find escape from their dilemma in a falling birth rate; but insofar as the experience of other countries can serve as a guide, it appears unlikely that China's birth rate in the twentieth century will begin to fall as fast as her death rate, or indeed that it will even begin to fall at all.

3. The Population Problem and the Prospects for Industrialization

The difficulties that the Chinese Communists will face in raising living standards do not preclude success in creating an industrial complex. The history of Japan lends empirical support to the thesis that low living standards do not debar industrialization. When Japan was opened to the West in the middle of the last century, the mass of Japanese lived much like the Chinese today, with earnings barely enough to maintain subsistence standards. The rapid industrialization that followed the opening of Japan is testimony in large part to the vigor and energy of government direction. The government of Japan, undertaking the establishment of state factories, initiated the beginnings of such important industries as textiles, shipbuilding, cement, and brickyards. When the government later turned these factories over to private ownership, they were producing large profits and providing the incentive for further investment. Besides direct state ownership, the Japanese government also employed other devices to hasten the program of industrialization. Government purchase of stock that received lower dividend rates than privately owned shares, relinquishment of dividends on government shares for the first few years, tariff protection, and active subsidization out of government funds were some of the measures employed with good effect to promote a rapid industrial development. Within half a century, Japan's industrialization (along with a population increase of some



70 percent) was sufficiently advanced to support her status as a major military power. The government was somewhat less successful in raising the standard of living. Although the economic well being of the individual Japanese improved during this period, typical living standards remained far below levels in Western societies.

In a Communist China, the speed of industrialization will be governed, even more than it was in Japan, by the energy and efficiency of government direction. A Communist government can, at least as much as any other, control the course of national production. This power of control is not unlimited; the most authoritarian government will be restrained by the political impracticability of starving the people to hurry the pace of capital accumulation. But there remains nevertheless, much scope to the Communists in the formulation of their plans to divert as much labor as possible from the production of consumer goods to the production of capital goods. During the war against Japan and in the civil/against each other, both Nationalists and Communists conscripted part of the nation's youth into the armed forces and directed much of the country's output of food, clothing, machines, and other goods into the military sector of the economy. A Communist China may be equally effective in directing as much of the nation's output as possible to the investment sector, that is to say to the manufacture of capital goods directly or to the production of commodities which can be exchanged in foreign trade for capital goods.

In this diversion of output to the investment sector, a Communist government will be in effect forcing the people to save, thus thwarting any temporary rise in living standards that might encourage too rapid population increase.



The part of the nation's output which remains for immediate consumption will set the limit for population expansion. The industrialization program of the government will thus operate as an active factor to contract further the limits set by nature to population growth. Admittedly, this bald statement that population growth will be causally dependent on the industrialization program may be too categorical. To a degree, the demands of a growing population will affect the government's planning decisions. But if pursued with a certain measure of zeal, possibly with the ruthlessness shown at times by the Russian Communists, the industrialization program of the Chinese Communists will tend as much to limit population expansion as to be limited by it.

The secondaries prompted by the foregoing considerations is that China's population problem may possibly slow down but need not prevent industrial development. The speed with which this development takes place, if it takes place at all, will depend to a large extent on other than demographic factors. The incidence of floods, droughts, and other natural disasters affecting harvests, for example, will determine how much can be exported in particular years to pay for imports of capital goods. Another factor will be the demand in foreign countries for China's exports; a declining demand would reduce her buying power for capital equipment. A third factor affecting the pace of industrial development will be the particular channels into which the Communists direct that development. Investment in the light consumer goods industries will produce quicker profits than more ambitious projects to build up heavy, capital goods industries or to extend transport facilities to remote areas. Thus, in the early stages of industrialization, emphasis on light industries, by providing profits which can be reinvested, can quicken the speed of capital accumulation.



Given the favorable concurrence of these and other factors which will promote industrialization, and given a Communist government that will not vitiate its advantages by notorious administrative inefficiency, an industrial plant will be built in China as it has already been built in the once backward countries of Japan and Russia. The end result will be a strategic advantage to China derived from the combination of a large population and an advanced stage of industrial development. A China which could industrialize as fast as Japan or Russia would be by the close of this century a nation with more manpower than any other and with the means to make that manpower militarily effective.